III.A.2 **H/Pu Versus Pu g/ℓ Relationships**

The calculations for the critical parameters for homogeneous plutonium systems were taken from the following H/Pu relationships:

For Pu nitrate solutions:

$$H/Pu = \frac{26,539 - 638.7 \times \text{Molarity of Excess Nitric Acid}}{Pu\ g/\ell} - 9.606$$

This equation was derived from work performed by C. R. Richey and G. M. Hess.

For Pu-H_2O solutions:

$$H/Pu = \frac{26,530}{Pu\ g/\ell} - 1.35$$

These are essentially earlier versions of the equations on page II.C.3-2 and actually only differ in the round-off of numbers and in the fact that the newer versions take into account the variation with Pu isotopic variation. Neither would significantly affect these calculations.

These equations are shown graphically on page III.A.2-2.

Revised 4/7/72